

Because different systems in an engine interact, the procedures should be done in the following order:

- a. Clean or replace the air filter element.
- b. Adjust valve clearance.
- c. Adjust camshaft chain tension.
- d. Run a compression test.
- e. Check or replace the spark plug.
- f. Check and adjust the ignition timing.
- g. Adjust the carburetor idle speed.

To perform a tune-up on your Honda, you will need the following tools and equipment:

- a. 18 mm spark plug wrench.
- b. Socket wrench and assorted sockets.
- c. Flat feeler gauge.
- d. 9 mm box wrench for adjusting valve clearance.
- e. Spark plug wire feeler gauge and gapper tool.
- f. Compression gauge.
- g. Ignition timing light.
- h. Portable tachometer.

VALVE CLEARANCE ADJUSTMENT

Valve clearance adjustment must be made with the engine cool, at room temperature (below 95° F/35° C). The correct valve clearance for both the intake and exhaust valves are as follows:

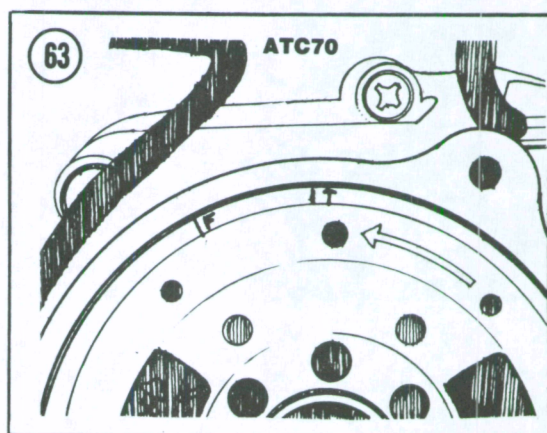
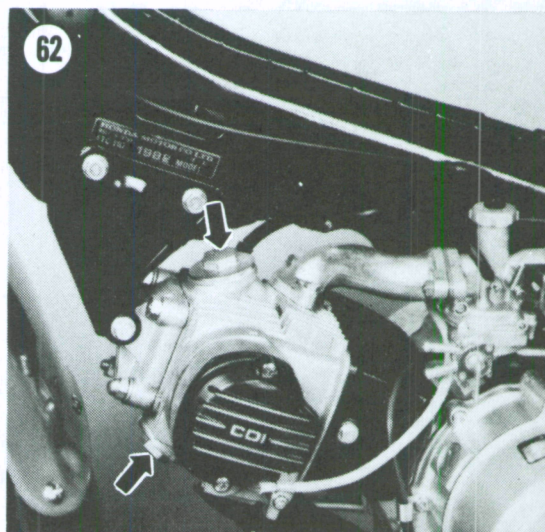
- a. ATC70 and ATC90: 0.05 mm (0.002 in.).
- b. ATC110 and ATC125M: 0.07 mm (0.005 in.).

The exhaust valve is located on the bottom of the engine and the intake valve is at the top of the engine.

1. Place the ATC on level ground and set the parking brake.
2. Remove the seat/rear fender assembly.
3. Remove the bolt securing the gearshift lever and remove the gearshift lever.
4. Remove the recoil starter assembly as described in Chapter Seven.
5. Remove both valve adjustment covers (Figure 62).
6. Remove the spark plug—this will make it easier to rotate the engine by hand.
7. On models so equipped, remove the timing inspection cover on the left-hand crankcase cover.
8. Using the nut (or bolt) on the alternator rotor, rotate the crankshaft *counterclockwise* until the piston is at top dead center (TDC) on the compression stroke.

NOTE

A piston at TDC on its compression stroke will have free play in both of the rocker arms, indicating that both the intake and exhaust valves are closed.

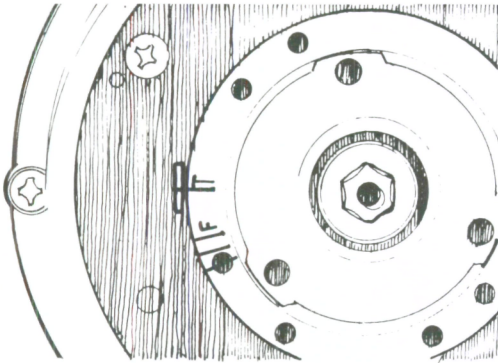


9. Make sure the "T" mark on the alternator rotor aligns with the fixed pointer either on the crankcase or alternator stator assembly. Refer to Figure 63 for ATC70 models or Figure 64 for ATC90, ATC110 and ATC125M models.

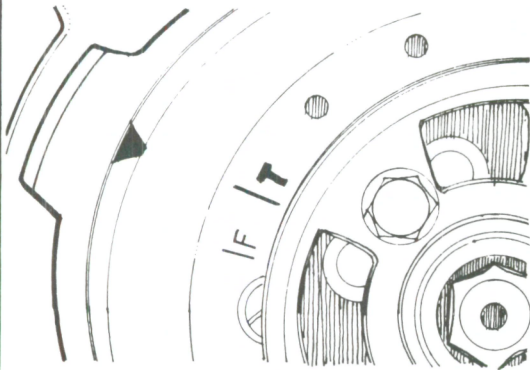
10. If both rocker arms are not loose with the engine timing mark on the "T," rotate the engine an additional 360° until both valves have free play.
11. Check the clearance of both the intake and exhaust valves by inserting a flat feeler gauge between the rocker arm pad and the camshaft lobe (Figure 65). If the clearance is correct, there will be a slight resistance on the feeler gauge when it is inserted and withdrawn.

12. To correct the clearance, use a 9 mm wrench and back off the locknut. Screw the adjuster in or out so there is a slight resistance felt on the feeler gauge. Hold the adjuster to prevent it from turning further and tighten the locknut securely. Then recheck the clearance to make sure the adjuster did

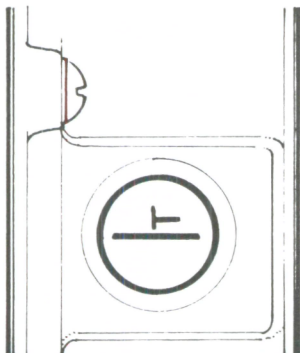
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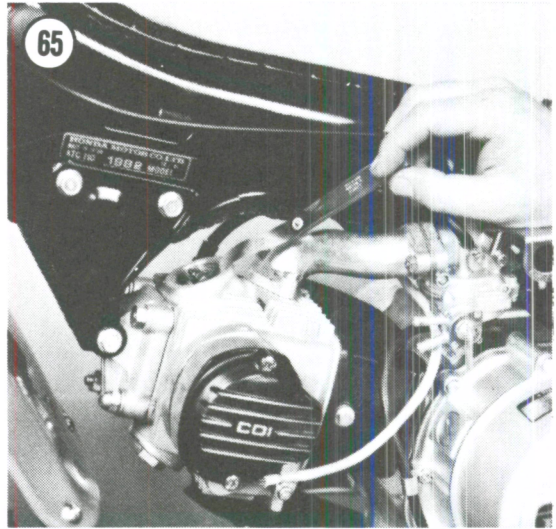
ATC90



1979-1980 ATC110



1981-ON ATC110, ATC125M



not slip when the locknut was tightened. Readjust if necessary.

13. Rotate the engine 360° and repeat Step No. 11 to make sure the adjustment is correct. If the clearance is still not correct, repeat Step 12 until it is correct.

14. Inspect the rubber gasket on each valve adjusting cover. Replace if they are starting to deteriorate or harden; replace as a set even if only one is bad. Install both covers and tighten securely.

15. Install the spark plug and attach the spark plug lead.

16. On models so equipped, install the timing inspection cover on the left-hand crankcase cover.

17. Install the valve adjuster covers, the recoil starter assembly, the gearshift lever and the seat/rear fender assembly.

CAMSHAFT CHAIN TENSIONER ADJUSTMENT

In time, the camshaft chain and guide will wear and develop slack. This will cause engine noise and, if neglected too long, will cause engine damage. The chain tension should be adjusted every 30 days of operation or if it becomes noisy.

1. Place the ATC on level ground and set the parking brake.

2. Start the engine and let it reach normal operating temperature. Shut off the engine.

3. Restart the engine and let it idle.

4. Loosen the cam chain tensioner locknut (A, Figure 66).

5. Slowly loosen the cam chain tensioner adjust bolt (B, Figure 66) counterclockwise 1/2 to 1 1/2

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